

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

OPENTV, INC.,

Plaintiff,

VS.

NFL ENTERPRISES, LLC

Defendant.

Case No. 2:17-cv-31-JRG-PSP

Jury Trial Demanded

**OPENTV'S OPPOSITION TO NFLE'S MOTION TO DISMISS
PURSUANT TO RULE 12(B)(3) AND RULE 12(B)(6)**

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I. INTRODUCTION

NFLE's Motion to Dismiss unfortunately adds to the rising tide of premature, pro-forma "abstract idea" motions resulting from the Supreme Court's 2014 *Alice* decision. The underlying inventions claimed in the patents NFLE challenges are undeniably technical improvements to the interactive digital video and TV systems existing when these patents were filed. NFLE's casual dismissal of the claimed inventions in these patents should not be permitted.

All five patents stand accused as ineligible abstract ideas under 35 U.S.C. § 101 because, according to NFLE, they are allegedly directed to well-known and fundamental ideas that have been performed by humans and rely on broad, result-focused, functional language that fails to provide detail as to how any of the abstract ideas are implemented. Dkt. No. 21 ("Motion") at 2. Yet, the claim language as a whole solves particular technical problems unique to particular technical fields. When focused on the actual claim language (not NFLE's mischaracterization of the inventions), it is clear that NFLE's position is meritless and certainly cannot satisfy the clear and convincing burden for proving invalidity under 35 U.S.C. § 101.

To accept NFLE's effort to recast the claims into alleged abstract ideas, one must first strip away the context and plain language of the claims and reduce them to an unrecognizable and irrelevant absurdity. Claims are not directed to ineligible subject matter simply because they can be overgeneralized to a slogan that ignores every inventive element recited in the claims. To be sure, serial patent infringement defendants routinely challenge every patent they have refused to license as an improperly patented abstract idea.

Some patents deserve serious scrutiny in light of recent precedent, but the five patents here easily survive any scrutiny. As discussed below, the patents provide significant technological contributions to their respective fields. These patents claim priority to at least the early 2000s,¹ when this technology was novel, and interactive and digital television began offering a new way to receive broadcast and cable television signals that has since revolutionized

¹ The '736 patent claims priority to September 1995.

the way we think about television. But nearly twenty years ago, the advances we take for granted today were more fiction than reality. At that time, while network bandwidth was greatly expanding and digital capabilities were increasing, a myriad of problems presented themselves. To make television truly interactive, content providers, network architects, and software and hardware engineers all had to figure out ways to make this data actually work together cohesively, be transmitted seamlessly, and operate on the numerous different devices that customers had at their homes. These inventions all claim different pieces of this puzzle, each one transforming the way we understand and what we expect from television and digital entertainment. Rather than seriously engage on the technological substance of these patents, NFLE only offers its counsel's empty rhetoric that the patents are directed to abstract ideas akin to collecting information or telling a student where to find a sports magazine. But gross overgeneralizations are not enough to invalidate patents. The five patents at issue are directed to statutory subject matter under § 101, not the abstract mischaracterizations that NFLE advances in its motion. NFLE's motion should be denied.

II. ARGUMENT

A. Under the Controlling Law, NFLE's Argument Under Rule 12(b)(3) Fails

NFLE tacitly admits that its motion under Rule 12(b)(3) must be denied as premature because "[i]f the Court cannot conclude at this time that venue is improper in this district, NFLE respectfully requests that the Court take this Rule 12(b)(3) motion under advisement pending the outcome of *TC Heartland*." Dkt. No. 23 at 11; *VE Holding Corp. v. Johnson Gas Appliance Co.*, 917 F.2d 1574, 1582-84 (Fed. Cir. 1990); *In re TC Heartland LLC*, 821 F.3d 1338, 1343 (Fed. Cir. 2016). NFLE also asserts that current venue "precedent should not be followed." Dkt. No. 23 at 11. But as the Report and Recommendation in *MyMail, Ltd. V. IAC Search & Media, Inc.*, E.D. TX Case No. 2:16-cv-1434-JRG-RSP (March 17, 2017) states:

Defendant lodges the same objection as petitioners in *In re TC Heartland LLC*: "Properly Interpreted, and consistent with controlling Supreme Court authority, §

1400(b) limits venue in cases accusing corporations of patent infringement to the district in which the accused corporation is incorporated, or a district where the defendant ‘has committed acts of infringement and has a regular and established place of business.’” (Dkt. No. 16 at 2.) Defendant further argues that (1) IAC is a corporation organized and existing under Delaware law, with its principal place of business in Oakland, California and (2) does not have a regular or established place of business in Texas. (Id. at 2-3.)

The Federal Circuit rejected this argument. *In re TC Heartland LLC*, 821 F.3d 1338, 1343 (Fed. Cir. 2016), cert. granted sub nom. *TC Heartland LLC v. Kraft Food Brands Grp. LLC*, No. 16-341, 2016 WL 4944616 (U.S. Dec. 14, 2016). The fact that the Supreme Court has granted certiorari does not change the fact that the rule in *VE Holdings* and then affirmed by the Federal Circuit in *TC Heartland* is controlling, “remains good law[,] and dictates venue in this case.” *F5 Networks, Inc. v. Radware, Inc.*, No. 2:16-CV-00480-RAJ, 2016 WL 6947414, at *6 (W.D. Wash. Nov. 14, 2016).

Slip. Op. at 1. Contrary to NFLE’s request that this Court ignore existing precedent or wait to see whether that precedent is overturned, this Court should apply the currently applicable law and deny NFLE’s Rule 12(b)(3) motion because NFLE does not even argue that venue is improper under the controlling cases.

B. NFLE’s Arguments for Unpatentability Ignore the Specific Technological Innovations and Fail to Overcome OpenTV’s Factually Supported Allegations

OpenTV’s Complaint has well-pleaded allegations that each of the patents claims a specific technological improvement that is rooted in specific technology and directed to solving specific problems involving **interactive and digital television**. The facts show that these inventions were new concepts, especially when they were first claimed well over a decade ago. *Trading Techs. Int’l, Inc. v. CQG, INC.*, 2017 WL 192716, at *3 (Fed. Cir. Jan. 18, 2017) (“We agree with this conclusion...the graphical user interface system of these two patents ***is not an idea that has long existed***, the threshold criterion of an abstract idea and ineligible concept....”) (emphasis added).

The ’729 patent claims a new way of encoding specific indicators with a video stream:

A person of ordinary skill in the art reading the '729 Patent would understand that the patent's disclosure and claims are rooted in complex computer-implemented operations that require complex computer hardware and software technologies that can be used to overcome the problem of how to insert content (additional information) at the relevant time into a video stream (e.g., a television program) so that the additional information is provided when it directly relates to the current content of the video stream.

Compl., ¶ 44.

The '033 patent claims a new way to use digital relational metadata that:

can be used to overcome problems encountered when inserting digital data into a digital broadcast signal to be transmitted using computers and/or other electronic devices.

Compl., ¶ 84.

The '169 patent claims a centralized control over broadcast data and resource management:

A person of ordinary skill the art reading the '169 Patent would understand that the patent's disclosure and claims are rooted in complex computer-implemented operations that require complex computer hardware and software to overcome the problem encountered when digital audio, video and/or graphic presentation initiates without the computer-implemented resources necessary for the presentation being present.

Compl., ¶ 104.

The '888 patent claims a new "omnimedia" data type that is used to:

combine audio, video and metadata data streams into a broadcast stream by, in exemplary embodiments, transcoding the streams by specialized preprocessor, packager and multiplexor systems into broadcast data formats based on a framework definition specifying data formats, combining the streams into a broadcast stream, and transmitting said stream to users in a form which can be decoded and displayed by a user's set top box or other receiver device.

Compl., ¶ 124.

The '736 patent claims a new way to connect television viewers with online content providers:

The technologies claimed in the '736 Patent were aimed at solving problems specific to interactive electronic content delivery systems, such as the Internet, and in particular, the problem of coupling content distribution with interactivity, i.e., responsive to user-specific characteristics, or user-specific interactions with the electronic content delivery system.

Compl., ¶ 143. For each allegation, OpenTV provided additional information explaining these technological improvements. The patents themselves (which were attached to the complaint) factually support these allegations.

At the pleading stage these factually supported allegations must be accepted as true and therefore OpenTV's Complaint passes § 101 muster.² The Supreme Court and Federal Circuit have explained that whatever else may not pass the § 101 threshold, specific improvements to technology or solutions that are rooted in technology are eligible. *Alice Corp. Pty. Ltd. v. CLS Bank International*, — U.S. —, 134 S.Ct. 2347, 2359 (2014), (inquiring whether the invention improves “the functioning of the computer itself” or effects “an improvement in any other technology or technical field”); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) (inventions “rooted in computer technology in order to overcome a problem specifically arising in” a technological realm are patent-eligible); *Trading Techs. Int'l, Inc. v. CQG, INC.*, 2017 WL 192716, at *3 (Fed. Cir. Jan. 18, 2017) (“Precedent has recognized that specific technologic modifications to solve a problem or improve the functioning of a known system generally produce patent-eligible subject matter.”).

Being that the Court “accepts all well-pleaded facts as true, viewing them in the light most favorable” to OpenTV, the patents must be found eligible at this early stage if OpenTV's allegations are “plausible on [their] face.” *Guidry v. Am. Pub. Life Ins. Co.*, 512 F.3d 177, 180

² NFLE has only offered arguments about one claim from each patent. OpenTV has asserted many additional claims in its infringement contentions, but NFLE has not offered any arguments about these claims or explained why, if at all, they are analogous to the claims at issue. OpenTV reserves its right to respond should NFLE make such arguments in the future.

(5th Cir. 2007); *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 570 (2007). A claim is facially plausible “when the plaintiff pleads factual content that allows the court to draw the reasonable inference” in the non-movant’s favor. *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). There are overwhelming facts, based on the intrinsic record and expert testimony, to support each of OpenTV’s allegations.³

OpenTV’s arguments are based on the words of the patents themselves—the problems they solve, the solutions they teach, and the claims as written—while NFLE’s arguments characterize each claim beyond the broadest possible terms by disembodiment the inventions from the explicit words of the patents. If anything, it is NFLE’s arguments that are abstract, untethered from the facts or anything else concrete or specific. Because NFLE advances the same general positions for each patent, OpenTV finds it more efficient to deal with NFLE’s high level points cumulatively, before explaining why each of the separate patents claim eligible subject matter, as it does below.

1. **NFLE Overgeneralizes OpenTV’s Inventions**

First, for *Alice*-step one, NFLE describes each invention by the most basic of terms, “describing the claims at such a high level of abstraction and untethered from the language of the claims [to] all but ensures” that the claims will fail § 101. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016) (*quoting Alice*, 134 S. Ct. at 2354 (noting that “we tread carefully in construing this exclusionary principle [of laws of nature, natural phenomena, and abstract ideas] lest it swallow all of patent law”)); *Diamond v. Diehr*, 450 U.S. 175, 189 n. 12, (1981) (cautioning that overgeneralizing claims, “if carried to its extreme, make[s] all inventions

³ In support of its allegations and its opposition, OpenTV attaches expert declarations from Tim Williams, Ph.D (“Williams Decl.”) (Exhibit A); Kevin Almeroth, Ph.D (“Almeroth Decl.”) (Exhibit B); and Martin Kaliski, Ph.D (“Kaliski Decl.”) (Exhibits C). Their curriculum vitae are attached to their declarations.

unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious”). As courts have warned, abstractness can always be found by over generalizing. And that is NFLE’s theme throughout its motion—to describe the inventions as generically as possible, dismissing any technological underpinnings as mere “verbiage.” The Federal Circuit and this Court has cautioned against this approach and explained that the claims must be dealt with as written, not as defendants imagine them to be. *Perdiemco, LLC v. Industrack LLC*, 2016 WL 5719697, at *6 (E.D. Tex. Sept. 21, 2016) (“This analysis requires the movant to substantively engage with the role played by the computer limitations in the context of the claim, not ignore those limitations.”); *Mirror Worlds Techs., LLC v. Apple Inc.*, 2015 WL 6750306, at *9–10 (E.D. Tex. July 7, 2015) (“However, only by removing the invention from the realm of computer technology can Defendants argue that organizing “documents” or “information” chronologically is conventional...But showing that pre-computer analogs to the claimed invention are routine and conventional is irrelevant. Defendants must show that the claimed computer functions are ‘well-understood, routine, conventional activities’ previously known to the industry. In this procedural posture, Defendants cannot do so.”) (internal quotations omitted).

Rather than disembodiment the idea from the invention, “the first step in the *Alice* inquiry in this case asks whether the focus of the claims is on the specific asserted improvement in computer capabilities...or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Enfish*, 822 F.3d at 1335-36 (“In this case, however, the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.”). Here, all of the inventions are directed to improving digital television transmissions and creating more effective,

more flexible digital content; computers are not being used in their ordinary capacity. This Court has found that similar inventions are patent eligible.

The Court finds that the claims asserted by PMC are analogous to the claims at issue in *Enfish* and similar cases in that the claims are directed to a specific improvement in modern technology and not to an abstract idea. *Funai* argues that the asserted claims of the '649 Patent are “simply directed to a generic way of communicating information to determine which television program to display.” The Court disagrees. The '649 claims are ***directed to overcoming problems specific to the distribution of streaming digital television programming and other digital content over computer networks.***

Personalized Media Commc'ns, LLC v. Funai Elec. Co., 2017 WL 957719, at *1–2 (E.D. Tex. Feb. 22, 2017), report and recommendation adopted, 2017 WL 951860 (E.D. Tex. Mar. 10, 2017); *see Enfish*, 822 F.3d at 1334–35 (“Rather, both [the Federal Circuit] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.”).

2. NFLE Ignores the Claimed Technological Structure

Second, NFLE argues that each invention is purely “functional” by ignoring all of the structural elements in the claims. This is a theme that runs throughout its motion.⁴ As detailed below, the claims have specific, structural computer elements. Even if the Court agreed with NFLE, the functionality of the claims is not the question; the question is whether the claims are rooted in computer technology and overcome a problem specifically arising in the realm of computers and technology. *See DDR Holdings*, 773 F.3d at 1257. Even improved functionality when rooted in technology, like encoding television data in a new way or transmitting television streams more effectively to better relay necessary data, can be patent eligible. *Trading Techs.*, 2017 WL 192716, at *3 (“Abstraction is avoided or overcome when a proposed new application

⁴ NFLE makes this argument under *Alice*-step one throughout its motion for all of the patents. OpenTV believes this actually concerns whether or not the patent claims an inventive step. NFLE subsumes this analysis as part of *Alice*-step one in order to undermine the specific technological limitations before it ever addresses *Alice*-step two.

or *computer-implemented function* is not simply the generalized use of a computer as a tool to conduct a known or obvious process, but instead is an improvement to the capability of the system as a whole.”); *CG Tech. Dev., LLC v. Bwin.party (USA), Inc.*, 2016 WL 6089696, at *5 (D. Nev. Oct. 18, 2016) (“The integration of the *non-abstract function*...for which the computer is used renders the invention as a whole patentable even if certain elements might not be separately patentable.”).

For several of the patents, NFLE goes so far as to stretch the patents’ meaning to manufacture baseless analogies, suggesting that an invention that cohesively relates different data sets for digital transmission is like a newspaper editor or an invention that provides automatic control for managing necessary resources of multiple television broadcasts to multiple different locations is like a child giving a show-and-tell presentation to his class. The silliness of these comparisons only highlights the obvious—OpenTV’s patents are specific technological improvements that cannot be and never have been practiced purely in the human mind or on pen and paper. The Court must be wary of such analogies that overstretch the terms of the patent. *Perdiemco, LLC* (“These deficiencies in the analogy help to illustrate why claim 6 is not merely a computerized version of conventional human activity, it is an improvement to a computer system that administers, manages, and conveys location information in a centralized way.”); *Motio, Inc. v. BSP Software LLC*, 154 F. Supp. 3d 434, 439–40 (E.D. Tex. 2016); *Mirror Worlds Techs.*, 2015 WL 6750306, at *7–8.

3. **NFLE Offers Only Conclusions that the Claims Are Conventional While Ignoring the Inventive Aspects**

Third, NFLE makes generic, unsupported conclusions that the claim limitations individually are merely uses of conventional, routine computer technology. *Alice*-step two asks whether there is “[a]n inventive concept that transforms the abstract idea into a patent-eligible

invention” by adding “significantly more than the abstract idea itself” beyond “simply be[ing] an instruction to implement or apply the abstract idea on a computer.” *Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349 (Fed. Cir. 2016); *DDR Holdings*, 773 F.3d at 1257-58. NFLE cannot escape the inevitable conclusion that each claim adds “significantly more” to the vague concepts NFLE identifies as the abstract idea. Each patent claims a “particular arrangement of elements” that is “a technical improvement” over prior art ways of communicating television data. *Bascom*, 827 F.3d at 1349-50. While NFLE tries to dismiss any computer-based limitation as “verbiage” or “prolix,” these important limitations confirm the inventions are all directed to using technology in unconventional and inventive ways. Combining known elements in a new and non-obvious way has long been the standard by which patents are measured. “[A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces.” *Bascom*, 827 F.3d at 1350; *Evolved Wireless, LLC v. Apple Inc.*, 2016 WL 6440137, at *7 (D. Del. Oct. 31, 2016).

The crucial point here is that NFLE musters no evidence to support its conventionality arguments other than its own biased hindsight, influenced by almost two decades of innovation since the priority date. At this stage, NFLE’s deflated accusations cannot overcome OpenTV’s well-pleaded allegations. “Against this backdrop, Defendants have not provided any evidence that claimed computer functions (using persistent mainstreams and substreams) were well-understood, routine, conventional activities previously known to the industry at the time of filing.” *Mirror Worlds Techs.*, 2015 WL 6750306, at *9–10; *see also McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315 (Fed. Cir. 2016) (finding “no record evidence supports” defendant’s conclusions); *Bascom*, 827 F.3d at 1350 (“On this limited record, this specific method of filtering Internet content cannot be said, as a matter of law, to have been

conventional or generic.”); *Timeplay, Inc. v. Audience Entm't LLC*, 2015 WL 9695321, at *6 (C.D. Cal. Nov. 10, 2015). Conclusions and rhetoric are not enough for a 12(b)(6) movant. Based on the patents, the evidence, the expert testimony, and the factual details in OpenTV’s Complaint, the only reasonable inference is that these patents all claim eligible subject matter.

4. NFLE Makes No Preemption Argument

Finally, NFLE’s motion is most telling for what it does not say. NFLE fails to address preemption at all—for any of the patents. This is fatal at this stage. “A final problem with Defendants’ position is a failure to meaningfully address preemption, which is the fundamental concern at stage one of the Mayo analysis.” *Perdiemco*, 2016 WL 5719697, at *6 (*quoting Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 85 (2012) (§ 101 embodies “a concern that patent law not inhibit further discovery by improperly tying up the future use of laws of nature ... [or] the basic tools of scientific and technological work”)). Here, each of the claims recite a specialized procedure or specialized program for accomplishing inventive ways to improve interactive and digital television that require specific structures and processes to operate. *See McRO*, 837 F.3d at 1316 (“By incorporating the specific features of the rules as claim limitations, claim 1 ... does not preempt approaches that use rules of a different structure or different techniques.”). These inventions do not present any danger that they will tie up all future uses of what NFLE contends are the basic ideas of organizing or collecting data.

NFLE’s motion must fail for these reasons. And as explained in detail below, each disputed claim is directed to solving a specific interactive and digital television-related problem with a solution rooted in specific and inventive technology.

C. The ’729 Patent Claims Patent-Eligible Subject Matter.

1. **The Technological Improvement Claimed by the '729 Patent Is Directed to Encoding Specific Types of Digital Television Data**

The '729 patent claims a concrete invention that solves the technological problem of how to encode content identification tags and markers for video-segment information into a digital television data stream. '729 patent, Abstract (“Also, a need exists for inserting indicators, such as tags and markers, in video broadcasts at the end-user location, in both an automated and manual fashion.”); Compl., ¶ 44; Williams Decl., ¶ 18. This invention is directed to the specific technology space of interactive and digital television data manipulation. It claims a priority date of at least 2000 and only has applicability to this specific space. *Id.* at ¶ 17. The prior art allowed only for tag marking of entire program streams. *Id.* at ¶ 18. The inventors conceived of a way to encode a video stream with specific indicator data and link the indicators to the segment through a specific address to a database. *Id.* at ¶ 19.

In contrast to the invention, the prior art only allowed for program-by-program tagging or encoding that could provide general information about the program as a whole, for example the length of the movie or show or a plot summary. Williams Decl., ¶ 18 (citing '729 patent, Abstract; *id.* at 1:29-38). The '729 patent invention, however, sought to leverage the nascent technological advances in digital telecommunications to allow for the transportation of specific indicators that could apply not just to the entire program, but to individual segments within the program based on broadcast-provider or user-defined tags that could hold a variety of information. The specification discusses this at length:

The present invention overcomes the disadvantages and limitations of the prior art by providing a system and method in which video indicators, such as tags and markers, can be generated and inserted in a video signal at the end-user location, such as a set-top box or viewer's computer to utilize and or establish content information regarding video segments.

The present invention provides for the generation and insertion of content identification tags that provide information regarding upcoming video segments

and markers that indicate the beginning/end of video segments. Tags can include rating information, keywords that describe the content, other descriptive material describing the content of the video segment, graphic recognition of video images, player statistical information, triggers that automatically connect the system to a interactive Web page overlay, alternative video source information, or any other information that may be useful in viewing or controlling the video signal. The video signal also includes video segment markers that indicate the beginning and ending of each video segment. These video segment markers are associated with the tags through a unique ID associated with each marker.

'729 patent, 1:42-62; *see id.* at 2:63-3:4; Williams Decl., ¶ 20.

One use for the patent is how a parent might want to allow their child to watch a movie or television program that might have isolated scenes with unacceptable content. *See, e.g.,* '729 patent, 2:63-3:7. Unlike the prior art, which only applied tagging to the program as a whole, a parent could use this invention to identify specific segments (and provide corresponding information as to the beginning and end times of particular segments), and mark and handle those specific segments accordingly to prevent their child from watching the unacceptable content. Williams Decl., ¶ 19.

The specific solution offered uses a time code generator to present to an address generator the location within an input video stream; the address generator generates an address, which is used as an index into a database; then the database provides an indicator (stored at the address within the database) to an encoder, which generates an output consisting of the video stream encoded with the indicator. Williams Decl., ¶¶ 20, 21, Compl., ¶ 44. Part of the inventive concept is the means by which the encoded indicators are accessed. The patent describes this process at length:

The video stream 306 is then applied to an encoder 308. A time code generator 310 generates a time code 312 that is synchronized with the video stream 306 and provides a numerical indication of the position of the video stream 306 that is being applied to the encoder 308 with respect to the entire video broadcast, such as a particular video show. The time code 312 is applied to an address generator 314 that decodes the time code and generates a corresponding address signal 316.

The corresponding address signal 316 is applied to a database 318. The database 318 functions in a manner similar to a look-up table. The database 318 receives the address signals and produces an output 320 which corresponds to the information that is stored at a particular address 316 that is applied to the database 318. For example, the address generator 314 may generate a series of sequential addresses in response to the time code 312.

'729 patent, 5:21-46, *see id.* at Fig. 3, 5:10-7:22; Williams Decl. ¶ 22. The specification also provides exemplar computer code of this functionality and lists examples of how the video stream can be encoded with tags and markers. '729 patent, 5:59-6:38.

Claim 1 requires “a time code signal” that must be “synchronized with the video stream,” which identifies the specific segment to which the indicator will apply. The time code is then applied to an “address generator” that provides a specific “address signal” that will link that time code with a plurality of indicators that are stored within a database. By allowing for this unique and inventive system of storing indicators in a database through an address generator link, the stream can be encoded in a variety of ways for providing a particular user experience.

2. **The '729 Patent Solves the Technological Problem of How To Encode Segment Video Data Indicators in a Digital or Interactive Television Stream**

NFLE oversimplifies the invention and argues it is directed to retrieving and inserting data into a presentation. This patent is not simply *directed to* this at all. Rather, the novel idea, as noted above, is how to encode a video stream (e.g. a television transmission) with unique indicators that apply to discrete video segments within the stream. The invention provides a repeatable and efficient mechanism to encode tags linked to a video segment based on a program time code. Williams Decl., ¶ 22; *see Enfish*, 822 F.3d at 1337 (“[O]ur conclusion that the claims are directed to an improvement of an existing technology is bolstered by the specification’s teaching that the claimed invention achieves other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements.”). This idea has no

analog to a long-standing or fundamental business practice or mathematical equation. Williams Decl., ¶ 20; *see DDR Holdings*, 773 F.3d at 1257 (“Here, we note that the ’399 patent’s asserted claims do not recite a mathematical algorithm. Nor do they recite a fundamental economic or longstanding commercial practice.”). At the time of the invention in 2000, providing segment-specific encoded video stream tagging was not commonplace. Williams Decl., ¶ 17.

While claim 1 is functional in nature (as all method claims are) ignoring the substantive role the structural elements play in the context of the claim would be error. *Perdiemco*, 2016 WL 5719697, at *6. Claim 1 requires time codes, address generators, address signals, indicators, and a database—these are nouns, not verbs; these are specific things, not vague functions. *Trading Techs.*, 2017 WL 192716, at *3 (“The claims require a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's structure that is addressed to and resolves a specifically identified problem in the prior state of the art.”); *Intellectual Ventures I LLC v. J. Crew Grp., Inc.*, 2016 WL 4591794, at *6 (E.D. Tex. Aug. 24, 2016) (“J. Crew’s recitation of the claims ignores (or at least evades) the elements of ‘nonpredictable bar code’ and ‘transaction information associated with a nonpredictable bar code.’ These elements place substantial limitations on the scope of the asserted claims.”); *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 2016 WL 4768827, at *9 (E.D. Tex. Aug. 8, 2016) (finding eligibility for an invention “directed to a purported improvement on an existing type of ‘traffic metering’ in the wireless network”).

The Federal Circuit has explained that a § 101 analysis should address whether the claims “focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1314. The claim limitations are the unique and specific

computerized tools of the inventive concept; they are not an echo of any abstract idea and do not merely invoke generic processes or machinery.

NFLE hopes to ignore the specific structure here, such as the time code and specific address that is generated and encoded to create a unique data stream, in order to support its generalized view of the patent instead of “substantively engag[ing] with the role played by the computer limitations in the context of the claim.” *Perdiemco*, 2016 WL 5719697, at *6. Simply put, NFLE cannot address the substance of these structural elements in the claim without conceding that the invention actually claims a concrete method to provide segment-by-segment indicators encoded within a data stream. Nor can NFLE dismiss the invention as abstract simply because it operates on digital data. “The fact that the asserted claims of the ’658 Patent ***involve, in part, the manipulation of binary data or signals does not inherently render them abstract.*** If that were the case, no claim drawn to a digital device could ever survive § 101.” *Genband US LLC v. Metaswitch Networks Ltd*, 2016 WL 5422737, at *37 (E.D. Tex. Sept. 29, 2016) (emphasis added).

Finally, although NFLE focuses on part of the specification that allows a user to identify tags or segments, the *claimed* invention cannot be performed by humans. Whether a human were to identify a tag or segment to link is of no moment. In order to carry out the claimed invention a specific technique is employed requiring that the tags be applied and encoded properly; a computer must correlate the information stored with the proper segment and transmit that data; and a computer must also do the decoding and address generation. Williams Decl., ¶¶ 23, 24.

There is no evidence to support NFLE’s argument that the patent is just directed to inserting information in a presentation. Instead, the intrinsic evidence and expert testimony

support the contrary—the claim is directed to a technological improvement for encoding a specific type of digital data to provide segment-specific encoded video stream tagging. Claim 1 must pass *Alice*-step one and the Court need not even consider the second step.

3. **The '729 Patent Provides an Inventive Concept of Using an Address Signal to Correlate Video Segment Tagging with Database Indicators**

If, as NFLE incorrectly contends, the invention is really just nothing more than inserting data into a presentation, then the claim here clearly adds “something more” because the express language of the claim recites a detailed technical interchange between the different elements of the invention. NFLE’s mischaracterizations notwithstanding, the claims do not simply say “insert data into a presentation and do it on a computer,” nor do they say “encode segment data into a video broadcast and do it on a computer.” As discussed above, the claims require a particular process with specific steps and structure. Williams Decl., ¶¶ 25, 26. Even if some of the individual elements were known, their combination in the specific claimed way was inventive and patentable. *Id.* Known technical concepts, when combined in new and inventive ways as here, are patent eligible ideas worthy of protection. *Bascom*, 827 F.3d at 1350; *Evolved Wireless, LLC*, 2016 WL 6440137, at *7.

These are not mere conventional steps. NFLE’s argument is similar to that raised unsuccessfully by the defendant in the *Genbend* case. There, the defendant argued that the inventions were merely the rote manipulation of binary data. The Court disagreed and said that the analysis had to account for the technology as it was claimed, not as defendant broadly defined it:

Claim 1 of the '658 Patent is not directed to an abstract idea, and it is neither drawn to the manipulation of binary data or signals nor “language translation” in any abstract way. Claim 1 is directed to specific technological components (“a first protocol agent,” “a second protocol agent,” and an “interworking agent”) that work together in specific ways to provide first and second “IP telephony device[s]” associated with first and second “IP telephony protocol[s],”

respectively, the ability “to communicate with each other according to a third protocol,” instead of merely the “first IP telephony protocol” or the “second IP telephony protocol.” PX3 at Claim 1...Claim 1 recites these elements in the particular context of a “call server” that enables a first and second “IP telephony device,” having a “first IP telephony protocol” and a “second IP telephony protocol,” respectively, to communicate with each other in the specific manner claimed. PX3 at Claim 1.

Genband US, 2016 WL 5422737, at *37. Here too, claim 1 of the ’729 patent is directed to specific technological components, including a time code signal, an address generator, an address signal, and a database. The time code must be synchronized with a video stream; it must be decoded by an address generator to generate a corresponding address signal; the address signal must be applied to the database, which has to store a plurality of specific indicators related to the video segment; and the indicators must be used to encode the stream for broadcast transmission.

Nor is it true that the patent does not provide the “how”—another erroneous theme trumpeted by NFLE.⁵ The specification provides ample detail of how to access the tags and markers using the address generator, as well as providing exemplary tags and markers.

```
<Tag>
<ID>3343</ID>
<StartTime>12:45:00</StartTime>
<EndTime>12:46:30</EndTime>
```

```
<Rating>PG</Rating>
<Rating>V</Rating>
<Description>Riots erupt in Central Asia</Description>
<Alt>lid:\alternative\new\channel3\weather.html</Alt>
</Tag>
```

⁵ Much of NFLE’s arguments concerning “how” implicate either enablement arguments or claim construction concerns, which are beyond the ambit of § 101.

```
[Tag:3343] [StartTime:12.45.00] [EndTime:12.46.30] [Rating:PG]
[Rating:V] [Description:Riots erupt in Central Asia] [Alt:lid:
\alternative\new\channel3\weather.html] [F4A2]
[Marker:Start] [ID:3343] [Alt: lid:\alternative\new\channel3\ford.gif]
[CD21]
[Marker:End] [ID:3343] [31AF]
```

'729 patent, 5:60-6:37. These technical details cannot simply be dismissed as insignificant.

Complex programming is required not only to generate these codes and signals, but also to encode them into a particular data stream.

NFLE has failed to meet its burden to show patent ineligibility.

D. The '033 Patent Claims Patent-Eligible Subject Matter.

1. The Technological Improvement Claimed by the '033 Patent Links Different Television Data Streams with Specific Relational Metadata

The '033 patent also claims a specific, concrete invention unique to the interactive television space. Here the invention uses computer hardware and software technologies to parse digital signals to identify relational metadata and related video signals and use the relational metadata to define relationships between a first dataset (e.g., a football player featured within a video stream segment) and a second dataset (e.g., additional information relating to that football player within the video stream segment) to initiate actions based on the defined relationship. Compl., ¶ 84, Kaliski Decl., ¶ 11. The '033 patent allows users to receive multiple sets of data in an improved way by providing “relational metadata” that links two or more of these separate data sets and allows the client to take specific action based on this unique type of metadata. *Id.* at ¶ 12. By providing multiple data sets, along with the additional information, the invention creates the opportunity for more “personalized viewing content and experiences [to] be created by the viewer.” '033 patent, Abstract.

The invention of the '033 patent is a powerful and unique way to use metadata. This patent claims priority to June 2000. Kaliski Decl., ¶ 13. According to the patent, at that time metadata's usefulness was limited. '033 patent, 2:56-57. Instead of simply describing information about just the data itself, the '033 patent invention concerns a new metadata describing a relationship between two or more sets of data. Kaliski Decl., ¶ 12. This might seem simple in hindsight, but the relational metadata had to actually be linked to the different sets so that they could be associated in the morass of digitized signals that was being broadcast. *Id.* at ¶ 14. Further, the invention had to meaningfully package the relational instructions so that the viewer's device could receive and understand them. *Id.* at ¶ 15. It might be easy to summarize, but complicated to practice. By using metadata to link multiple data sets, the invention creates a potential for a highly customizable experience based on the greatly enhanced ability to stream multiple data sets simultaneously. The second set of data also could be broadcast well after the relationship metadata is set, based on the dynamic linking nature of the invention. '033 patent, 6:1-27; 7:17-32.

The '033 patent offers a hardware and software architecture that specifically incorporates components for injecting relational metadata into a programming stream and appropriately processing it. Kaliski Decl., ¶¶ 14, 15; '033 patent, Figs. 2, 8-10, 10:53-13:15. But to actually use relational metadata, the metadata needs an "identifier" that links the metadata to the appropriate data sets, and a link to the appropriate set or sets of data. '033 patent, 8:65-10:24. The patent also discloses a relational metadata processing engine that can manage this operation seamlessly to the end-user. Kaliski Decl., ¶ 15; '033 patent, Fig. 9, 12:21-59; 14:20-15:64.

Claim 27 requires executable program instructions that can receive "relational metadata," which is defined as having a relationship identifier and a dataset element that identifies the

second set of data.⁶ In addition, the program must be able to identify and take appropriate action based on the identified relationship.

2. **The '033 Patent Improves Interactive Television Signals by Using a Specific Type of Metadata**

NFLE argues that the patent is directed to “the simple idea of taking an action based on relationship information.” Motion, at 16. This is a gross oversimplification. At a high level, the patent is directed to using relational metadata with interactive television signals. Kaliski Decl., ¶ 11. It solves the technological problem of how to relate two or more data streams and how to improve the flexibility and use of metadata. *Id.* at ¶ 12. In 2000, this was neither conventional nor long-standing. *Id.* at ¶ 13. Instead, the invention serves a narrow purpose of improving the technology of metadata to allow for an improved interactive television experience.

NFLE dismisses “relational metadata” as merely complicated words. But it is inappropriate, especially at the pleading stage, to gloss over the nuance of an invention to construct an abstraction as an artifice. As discussed above, NFLE must deal with the technology as explained on the face of the patent. Here, the words are complicated because the technology is complicated. These are not conventional steps that can be performed by humans or in the human mind. The invention solves a specific problem of how to provide a more robust interactive television experience and provides a very unique, narrowly tailored solution to do so that involves new types of metadata. Kaliski Decl., ¶ 12. This is similar to the Federal Circuit’s decision in *Enfish*, where the court noted that the claimed self-referential database model “function[ed] differently than conventional database structures.” *Enfish*, 822 F.3d at 1337. Unlike conventional logical models, the self-referential model could store all data entities in a single table and define the table’s columns by rows in that same table. *Id.* at 1332. The self-

⁶ OpenTV also has alleged that NFLE infringes at least claim 16, which claims a parsing unit, an association unit, and a decision unit. NFLE has not argued that claim 16 is ineligible.

referential model improved the functioning of a computer by permitting “faster searching of data,” “more effective storage of data,” and “more flexibility in configuring the database.” *Id.* at 1333. Here, the relational metadata instruction allows for better and more effective use of the increased network bandwidth and more flexibility in providing interactive content to a user.

NFLE’s newspaper-editor analogy has no relationship to the actual invention, but only describes NFLE’s own overly broad view of the patent. This Court has distinguished such overly broad and inapt analogies before:

More importantly, the field trip analogy omits or glosses over many limitations of the claim, including the aforementioned “location information source” and access codes. As discussed *supra*, these limitations are not afterthoughts. Managing the information provided by the location information source using a set of relationships defined in part by access codes is what the claim is all about. The analogy also fails to capture another key feature of the claim: centralization... These deficiencies in the analogy help to illustrate why claim 6 is not merely a computerized version of conventional human activity, it is an improvement to a computer system that administers, manages, and conveys location information in a centralized way.

Perdiemco, LLC, 2016 WL 5719697, at *6. Similarly, NFLE’s analogy cannot accurately account for the software and computerized elements in the claims. Kaliski Decl., ¶ 16. A newspaper editor is not a computer readable storage medium comprising program instructions. A newspaper cannot issue a correction contemporaneously with the version you are currently reading nor could the same newspaper correct itself several hours after you originally read it. *Id.* A newspaper, once received, is static. *Id.* The print, the pictures, the layout cannot change at all. Nor does a newspaper “broadcast” anything, let alone two different sets of data along with corresponding relationship data and it does not account for an executable set of software instructions.

And like the analogy in *Perdiemco*, NFLE’s analogy does not account for the essential nature of the invention. Here, the invention is concerned with “automatically” performing a

function. “[P]rocesses that automate tasks that humans are capable of performing are patent eligible if properly claimed.” *McRO*, 837 F.3d at 1313. *See* ’033 patent, Abstract (describing actions as “automatically performed”); *id.* at 3:5-7 (“Upon determining this relationship, an action may be automatically performed. The metadata and relationship information in the analogy might work to operate.”); *id.* at 3:27-30 (“Subsequent to determining the data identified, and the relationship which is indicated, the processing engine is configured to automatically take a predetermined action.”). Not many newspaper editors automatically draft corrections upon receiving a complaining letter.

NFLE is also wrong about the nature of the claim when it argues that it does “not limit the types of information that is received, where it is received from, or how it is received.” NFLE offers no explanation as to why this should be the touchstone of eligibility, but in any event, the claim *does limit* the type of information and the type of action to be taken. The “information” is limited to a specific type of data (a relational metadata instruction) that is received from television data streams, and the patent explicitly provides the type of actions that may be taken based on the identified relationship in the final limitation of claim 27. ’033 patent, claim 27, 18:67-19:2 (limiting the initiating action to “a summary, a correction, a repeat, a highlight, more detailed content, related text, and a related icon”).

The cases that NFLE cites found abstraction because those patents claimed broad steps that involved receiving information and analyzing it, with nothing more. In *FairWarningIP*, the patent was generally directed to analyzing records of human activity and was merely collecting information. *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093 (Fed. Cir. 2016).⁷

⁷ Similarly, in *CalAmp Wireless Networks Corp. v. ORBCOMM, Inc.*, 2017 WL 536833, at *3 (E.D. Va. Feb. 9, 2017), the district court found that the patent was directed to nothing more than simple collecting and comparing location information, which has been a human process for

What was fatal was that there was nothing more, “such as identifying a particular tool for presentation.” *Id.* Here, there is significantly more including a specific tool for the improvement—relational metadata with the corresponding structure. Like in *McRO*, there is an automatic use of data of a particular type. *See McRO*, 837 F.3d at 1314. The data must be of a specific type—a relational metadata instruction—it must be used in a specific way—as part of a program handling interactive television streaming—and it must contain additional information about the relationship, the linked data sets, and the action to be taken. It is also instructive to compare NFLE’s cases with *Personalized Media Commc’ns*, where this Court found the invention directed to “a specific technological problem rooted in signal transmission and processing” as opposed to just comparing information based on the patent specification and claims. *Personalized Media Commc’ns*, 2017 WL 957719, at *2. The actual claim language makes clear the ’033 patent is directed to a specific improvement in interactive television capabilities like *Enfish*, *McRO*, and *Personalized Media*.

3. **The ’033 Patent Provides an Inventive Concept of Using a Relationship Identifier to Link Different Types of Metadata**

The inventive concept here is to create a new type of metadata (a relational metadata instruction that is a specific type of data itself) that includes components that define a relationship between at least two other sets of data being used to deliver interactive television signals along with program instructions that allow for a host of functionality. Kaliski Decl., ¶ 17. Contrary to NFLE’s conclusions, the claims do require very specific software that must be capable of receiving the relationship metadata and identifying and initiating appropriate actions. Examples of these steps are shown in detail in the specification. *Id.* at ¶ 18. The invention

centuries and is therefore easily distinguishable. The case, here, however is more akin to *CG Tech. Dev., LLC v. Bwin.party (USA), Inc.*, which also involved location information like in *CalAmp*, but the claim was directed to improving the “function of determining the mobile gaming device location via computer.” 2016 WL 6089696, at *5 (D. Nev. Oct. 18, 2016).

works not because there is an abstract presence of more data, but because there is a relational metadata processing engine that can understand and process that data:

Also contemplated is a relational metadata processing engine which includes a parsing unit, an association unit, a decision unit, and one or more action units. Generally speaking, the parsing unit is configured to parse received data and identify relational metadata instructions which are included therein. The association unit is configured to identify particular sets of data which are indicated by the relational metadata instruction. In addition, the association unit may be configured to identify a relationship between two or more of the sets of data, which is indicated by the instruction. The decision unit is configured to receive information from the association unit regarding the identified data and relationship, and is configured to responsively initiate a particular action. In one embodiment, the decision unit conveys an indication to an action unit which then performs the indicated action.

'033 patent, 3:37-51. NFLE does not address these specific limitations or teachings at all. Based on the intrinsic evidence, however, the record fully supports OpenTV's allegation that this is the "something more" that supplies the inventive concept that confers eligibility. *Motio, Inc. v. BSP Software LLC*, 154 F. Supp. 3d 434, 439–40 (E.D. Tex. 2016) ("Plaintiff identifies the "automated agent" [previously construed as software...[that] provides automated version control...] as that 'something more.' The Court agrees."). To go beyond that, would require claim construction. This by itself shows that NFLE's motion is premature and must be denied.⁸ *Realtime Data, LLC v. Actian Corp.*, 2015 WL 11089485, at *6 (E.D. Tex. Nov. 30, 2015) ("The parties' disagreements revolving around these claim terms indicate that claim construction is necessary. It would be improper for the Court to accept Defendants' interpretation of the claim terms [as part of a motion to dismiss] without determining how a person of ordinary skill in the art would do so."); *Rockstar Consortium US LP v. Samsung Elecs. Co.*, 2014 WL 1998053, at *3 (E.D. Tex. May 15, 2014) ("If there are factual disputes about the patent's claims, ... the question

⁸ As OpenTV has explained in a letter brief, claim construction is needed for at least three of the five patents before the Court can rule on the § 101 issues. Dkt. No. 29.

of patentable subject matter should be reserved until claim construction.”); *Cryptopeak Sols., LLC v. Lowe’s Home Centers, LLC*, 2016 WL 7198705, at *7 (E.D. Tex. Sept. 9, 2016) (“Because the § 101 analysis in this case critically depends on the scope of the asserted claims and the construction of certain key terms, the Court declines to recommend dismissal of Plaintiff’s complaints on the basis of subject matter ineligibility at this time.”); *Mirror Worlds Techs.*, 2015 WL 6750306, at *10.⁹

NFLE complains that the terms are not limited to any specific hardware or software. The ’033 invention is limited to specific software because by the terms of the claims, the software must be able to perform the limitations as stated. That the claim is not limited to specific hardware is immaterial. NFLE does not cite to any case that says a patent is abstract if it is not limited to a specific piece of hardware or is not abstract because it is so limited. The patent would be meaningless if it was limited to one type of computer or set top box. The idea is to have more flexibility to use data—not less. The inventive concept here is not a new set top box, but a new type of program that can create, identify, and act upon a new type of relational metadata. Software is not *per se* ineligible, as NFLE would seek. “Software can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route.” *Enfish*, 822 F.3d at 1335; *id.* at 1339 (“Much of the advancement made in computer technology consists of improvements to software that, by their very nature, may not be defined by particular physical features but rather by logical structures and processes.”); *Trading Techs.*, 2017 WL 192716, at *3 (“For some computer-implemented methods, software may be essential to conduct the

⁹ NFLE also complains that the terms “relational metadata,” “relationship identifier,” and “dataset” are broad on their face. OpenTV disagrees, but this only highlights the need for claim construction.

contemplated improvements.”).

In the cases cited by NFLE, metadata was merely post-solution activity that was used by a generic, abstract claim. Here, it is the essence of the invention. Moreover, the patent is not claiming just any metadata, but a very specific implementation of metadata that only has applicability to the specific field of interactive television broadcast signals. Kaliski Decl., ¶ 18. This is likely why NFLE once again avoids the issue of preemption. If the patent were actually directed to taking an action based on relationship data, this claim is narrowly tailored to a minuscule subset of such activity that requires specific technology.

NFLE has failed to meet its burden to show patent ineligibility.

E. The ’169 Patent Claims Patent-Eligible Subject Matter.

1. Another District Court has Already Mooted an *Alice* Challenge to the ’169 Patent Due to a Need for Claim Construction

As an initial matter, this patent has already been challenged under *Alice* in another proceeding and that court rejected the defendant’s assertion. Specifically, in *OpenTV, Inc. v. Netflix, Inc., et al*, 3:14-cv-01525-RS, Netflix argued for summary judgment that the ’169 patent was abstract and patent ineligible. *Id.* at Dkt No. 50. Netflix contended, as NFLE does here, that “[o]n its face, this claim is directed to an abstract idea” and that there is nothing that could not be performed in the mind of a person, or perhaps on pen and paper. *Id.* The court held that it would be premature to decide this question without claim construction because “this is not clearly an instance where the patentee is merely attempting to claim a computer-based implementation of a long-established concept or practice” and that “the patent appears to be directed at providing a technological solution to a problem that arises in the computer/interactive television context.” *OpenTV, Inc. v. Netflix, Inc.*, 76 F. Supp. 3d 886, 890-892 (N.D. Cal. 2014). As properly

construed, the claims are rooted in complex technology that overcomes a discrete technical problem in the field and are patent eligible.

2. **The Technological Improvement Claimed by the '169 Patent is Directed to Automatically Managing Essential Interactive Television Resources**

The '169 patent claims another invention that is unique to the digital and interactive television paradigm. Almeroth Decl., ¶ 29. Conventional television systems allowed client devices to present video programs for users, but many of these programs were inefficiently broadcast in a cyclical or repeating format, referred to as a “carousel.” '169 Patent, 1:43-67; Almeroth Decl., ¶¶ 34-35. A television program might need essential resources, and just because the sender is repeating its broadcast in a carousel fashion does not necessarily mean that the receiver has the essential data the client needs to begin the program. *Id.* at ¶¶ 35, 36. This problem was further complicated by various types of hardware and digital signals that were being used. *Id.*

Notably, the patent succinctly sets out the problem that it is seeking to solve:

As television receivers become more sophisticated, and include the ability to access a wider range of data and resources, efforts have been made to develop mechanisms to handle these additional resources. For example, the DVB MHP 1.1 specification and DAVIC 1.4.1 Part 9 specification define a URL scheme to access broadcast services. Since DAVIC broadcast networks carry Service Information (SI) that contains globally unique parameters for locating the services in a broadcast network, their URL scheme is able to address services in a physical network independent manner. ***Unfortunately, such schemes may not work on ATSC networks or other networks that define different or even proprietary signaling formats. Therefore, a new more flexible scheme is desired.***

'169 patent, 2:17-30 (emphasis added).

Given this, there was a need in 2001 for “a new more flexible scheme” to allow reliable delivery of interactive presentations to users and to ensure that a program had the required resources to play before it started. Almeroth Decl., ¶ 30; *see also* '169 patent, Abstract, Fig. 5,

2:28-29, 2:40-47. Interactivity is nice, but it is not well appreciated if the program must be restarted or delayed part way through because there are insufficient resources to render a complete and enjoyable user experience.

In particular, the '169 patent uses an innovative, specially programmed computer system to determine whether a digital audio, video, or graphic presentation requires other computer-implemented resources for its presentation. Almeroth Decl., ¶ 33. If the presentation does not have the essential resources, it is not allowed to proceed until it does. *Id.*; Compl., ¶ 104. The specific, innovative technique requires the use of a managed and automated process “for enabling the creation and/or control of interactive television content using declarative-like directives such as HTML, scripting languages, or other languages.” '169 patent, Abstract. These “directives” and “prerequisite directives” enable efficient and reliable display of content by identifying (in advance) the specific presentation resources that the system will need to play the content reliably and to effectively communicate with multiple different clients that particular resources are prerequisites. *Id.* at Fig. 5, 2:40-47. In other words, the '169 patent automatically controls communications ubiquitously using a unique scripting protocol across a variety of different platforms so that each client device understands whether or not to proceed with playing the program. Almeroth Decl., ¶¶ 33-36.

Appreciating that a digital television broadcast operates differently than most other digital network transmissions, the '169 patent describes a more flexible scheme in immense detail in the 51-column specification that includes numerous source code examples and teachings. Almeroth Decl., ¶¶ 38-39. The key to the invention is being able to automate a process to manage these resources and broadcasts, as well as develop a scripting protocol that is deterministic and unambiguously designed so that other computers, even using different signals

and platforms, can understand each other and understand when they were allowed to proceed. *Id.* at ¶¶ 32, 33. The '169 patent claims, and the specification describes, a solution that requires automatic creation and parsing of directives that are encoded with the video and audio stream that would indicate the need for prerequisite resources and delaying the content presentation until those (required) resources are delivered.

3. **The '169 Patent Improves the Functioning of Digital Television Signal Processing by Automatically Ensuring a Program has Essential Resources Before it Proceeds**

NFLE believes the invention claims a simple rhetorical question: “do I have everything I need to get started?” This artful oversimplification is just a construct. The claim is not directed to plays, orchestral performances, or other live human events wherein humans control the action and provide the resources manually. None of the fanciful analogies that NFLE relies on actually address the import of the technological solution—ensuring efficient and reliable display of content by identifying (in advance) the specific presentation resources that the system will need to play the content—central to the claim. Another court has already rejected an overly simplistic view of this invention. *OpenTV, Inc.* 76 F. Supp. 3d at 890-892. NFLE’s analogies fail for the same reason this Court has distinguished similar flawed analogies—they are overly simplistic and obfuscate the technological underpinnings unique to the inventions. *Perdiemco*, 2016 WL 5719697, at *6 (“The analogy also fails to capture another key feature of the claim: centralization”); *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 2016 WL 4768827, at *8 (E.D. Tex. Aug. 8, 2016) (“While there are some parallels between LG’s freeway onramp analogy and claim 21, the claim is manifestly narrower than “traffic metering” and does not cover what happens at a freeway onramp.”); *Genband*, 2016 WL 5422737, at *38 (distinguishing “translator” analogy because it did not properly account for the technical elements of the claim). The claimed invention is not simply computerizing human activity. Rather, it improves the

interactive television space that administers and manages prerequisite resources by defining a precise mechanism (in advance) to efficiently control the operation and timing of content presentation. Almeroth Decl., ¶ 41. It is not directed to a long-standing or conventional idea. *Id.* at ¶ 36.

Even if the claim were only about asking if you have necessary resources, the specific context here is important: it is a computer asking other computers if they have the necessary resources. Almeroth Decl., ¶ 31. The computer has to understand what a prerequisite resource even means and what it means to possess that resource. *Id.* If a person rhetorically asks herself “do I have everything I need to proceed?” she will understand the question based on all the foundations of language and assumptions already present in her mind. A computer has no such foundation or set of assumptions. *Id.* Thus, OpenTV invented a scripting protocol so that a computer could understand what these things actually meant, and respond accordingly. *Id.* at ¶ 32. The problem is amplified enormously when that computer must then talk to and direct a variety of other devices. *Id.*

Nor is the invention merely “functional.” It performs functions because it is a method claim, but it requires structure like audio, video, and graphic resources, “one or more directives” that are indicative of the necessary “prerequisite resources,” as well as the structure necessary to prevent or authorize content presentations based on the availability of the prerequisite resources. At best for NFLE, claim construction is necessary to understand the full scope of the claims.

Finally, the automatic nature of the invention easily distinguishes this case from *Ultramercial*, which merely facilitated a user engaging in classic economic activity but on a computer. Here, the inventive computer system which identifies, in advance, the specific presentation resources that the system will need to play the content efficiently and reliably is

improved so that it can, *on its own*, start and stop individual programs from proceeding through an automatic control over the whole process. Almeroth Decl., ¶¶ 30-33.

4. **The '169 Patent Provides an Inventive Concept of Managing Multiple Broadcasts Based on an Unambiguous Scripting Language**

The claims undoubtedly add something more to the basic concept of asking if you have what you need. The patent itself states the invention is not conventional, but an innovative improvement to the prior art that allowed for greater flexibility based on the network architectures and formats. '169 patent, 2:16-29. The specification leaves no doubt that this invention requires particular technology directed to achieving a very narrow end—creating a way to allow for automatic control over a variety of devices based on a robust, unambiguous language that those other devices could understand and follow. Almeroth Decl., ¶¶ 38-39.

There are over 35 source code examples in the specification that detail the underlying flexible approach, such things as “URL Used for Tuning and Stream Selection,” “A/V MIME Types,” “TVPipe Object,” “TVComponent Object,” “Obtaining Non-AV Resources,” “Access to Broadcast Resources,” “farPrefetch Method,” “TVLink Object,” “Protecting Access to Key Resources,” “Showstopper and Prefetch Requirements,” and “Path Segments.” See, e.g., '169 patent, Figs. 1-5, 9:45-10:17, 10:44-54, 13:5-62, 23:30-24:60, 31:35-32:47, 44:31-46:53, 47:23-50:45, 51:17-56. The specification and evidence confirm the claims contain inventive concepts. *Enfish*, 822 F.3d at 1337 (“[O]ur conclusion that the claims are directed to an improvement of an existing technology is bolstered by the specification’s teaching....”). Nor are these claims at too high a level of generality as evidenced by this vast support in the specification. Instead, the invention requires a specific structure that implements particular rules in order to more effectively manage interactive television data. Almeroth Decl., ¶¶ 44, 45; *see McRO*, 837 F.3d at 1315.

These are not “bare, abstract” elements despite what NFLE’s counsel may contend. NFLE fails to explain why these elements “cannot satisfy *Alice* step two” other than to keep repeating that they are conventional or too broadly claimed. Nor does it matter that the patent discusses conventional technology, such as VCRs. Almeroth Decl., ¶ 46. The patent is not directed to inventing a new VCR, but to the technology of providing automated control over resources for interactive television programs. *See Bascom*, 827 F.3d at 1349–50 (“BASCOM does not assert that it invented local computers, ISP servers, networks, network accounts, or filtering. Nor does the specification describe those elements as inventive....”). Sometimes, as here, the ordered combination is greater than the sum of the parts.

There is no evidence to support NFLE’s argument that the claims are nothing more than a drafting effort to monopolize the idea of asking whether you are ready to proceed. The claims add significantly more to those generic concepts. The ’169 patent does not append conventional computer components to a long-standing or fundamental idea, but provides a specific technological improvement that allowed for flexible control to automatically distribute and manage resources and is patent eligible.

NFLE has failed to meet its burden to show patent ineligibility.

F. The ’888 Patent Claims Patent-Eligible Subject Matter.

1. The Technological Improvement Claimed by the ’888 Patent Creates a New Type of Data Used for Digital and Interactive Television

The ’888 patent is directed to the creation of an “omnimedia” data stream that takes “a variable number of disparate streams of data” and packages them together into one coherent package. ’888 patent, Abstract; Compl., ¶ 124. The inventive solution could use specialized preprocessor, packager, and multiplexor systems to transcode different streams into a cohesive broadcast stream and transmit it to viewers. *Id.*, Williams Decl., ¶¶ 30, 36. At the time of the

invention in 2000, this was a new type of digital media used by digital and interactive televisions. *Id.* at ¶ 29. To that end, the patent discloses a mechanism that defines the “framework” for the omnimedia package, so that the package may be built, formatted, transmitted, and displayed, on a variety of different platforms. *Id.* at ¶ 31.

The inventors had to account for the variety of hardware and network formats used by different customers. ’888 patent, 2:6-64; Williams Decl., ¶ 35. The problem was that even if you had the infrastructure to handle so much data, you still needed a way to package and unpack the disparate streams so that they could be understood at the client end by the various different devices. *Id.* Otherwise, the user would merely be receiving a useless jumble of digital information.

The present invention overcomes the disadvantages and limitations of the prior art by providing a system and method that allows a transmission system to organize and transmit a related set of media and for a display platform to organize and render related media information in a manner that reflects the available media and the capabilities of the platform. A framework definition identifies a set of associated content (media) for a broadcast program. The present invention compares the format of the media with a transmission format and converts media of other formats to that of the transmission format.

’888 patent, 1:49-61. The inventors offered a solution of building and parsing the omnimedia stream with a “framework definition” in order to make the invention function and overcome the problems presented in the prior art. *Id.* at 1:15-21; Williams Decl., ¶ 36. “A framework controller may utilize the framework definition to access media content, to process and format the media content and to control packaging and multiplexing of the content for broadcast.” *Id.* at 2:18-21. This controller has sub-packages for audio, video, images, and other necessary media types that analyze the stream and convert it to an accessible format that can be used by the client despite the differing types of hardware and software being used. *Id.* at 9:27-67.

2. The '888 Patent Solved a Technical Problem of Packaging Different, Specific Data Types Into a Single Broadcast that Could Be Understood by Different Hardware and Software

NFLE states that the patent is directed to “organizing and combining media information for transmission,” but this misses the point of the invention entirely. Rather, this invention is directed to creating a new type of digital data stream that while it appears as one stream for certain purposes (such as transmitting or broadcasting) it acts as multiple, disparate streams for other purposes such as displaying the various programs, information, and menu options to the viewer. Williams Decl., ¶ 34. This is not an abstract concept. *Evolved Wireless, LLC v. Apple Inc.*, 2016 WL 6440137, at *7 (D. Del. Oct. 31, 2016) (“Because the ’916 and ’481 patents are directed to technological improvements resolving specific problems in a wireless communications system, the court finds that they claim patent-eligible subject matter under § 101.”); *Personalized Media Commc’ns*, 2017 WL 957719, at *2 (“The Court finds, however, that the [patents] address a specific technological problem rooted in signal transmission and processing...correctly identifying the content of different media received in multiple signals to produce a coordinated presentation using two of the received media...[and] a process of matching a “signal processing scheme” to the variable format of a received digital signal to output television programming.”).

NFLE’s description does not appropriately capture the scope of the technology because it does not account for the fact that it is directed to interactive television or that it must be used on a variety of different devices. Williams Decl., ¶ 31. But even by NFLE’s description, the ’888 patent must transmit information and in order to combine and organize media information for transmission there must be a tangible device to effect that transmission. This implicitly requires an architecture that would allow for data to be packaged, distributed, received, and understood in a usable way. *Id.* at ¶ 32. NFLE’s motion includes quotes from the specification that prove this

point. Motion, at 26, n.5 (quoting '888 patent, 1:50-55) (describing the invention as “a transmission system to organize and transmit a related set of media and for a display platform to organize and render related media information in a manner that reflects the available media and the capabilities of the platform.”).

This is much more than merely “organizing” and “combining,” but NFLE only wants to focus on these words so it can draw tenuous parallels to other cases. But this invention is not like the ideas at issue in *Digitech*, or NFLE’s other cited cases where that was *all* that was claimed. See *California Inst. of Tech. v. Hughes Commc'ns Inc.*, 59 F. Supp. 3d 974, 987 (C.D. Cal. 2014) (“This simplistic take on *Digitech* would eviscerate all software patents, a result that contradicts Congress’s actions and the Supreme Court’s guidance that software may be patentable if it improves the functioning of a computer.”). Nor is it like *Electric Power* where the claims vaguely were directed to collecting “information” and nothing more. In *Electric Power*, the Federal Circuit said the question cannot be just whether an invention “select[s] information” but on “any requirements for *how* the desired result is achieved.” Those requirements are explicitly laid out in the claim. Williams Decl., ¶¶ 34-36. This Court has explained that while information may be intangible, a stream of binary data is not necessarily so. “The fact that the asserted claims of the '658 Patent involve, in part, the manipulation of binary data or signals does not inherently render them abstract.” *Genband US*, 2016 WL 5422737, at *37.

The patent is not only claiming a new type of data but also the ability to stream it to a variety of receivers. This is not abstract.

3. **The '888 Patent Provides an Inventive Concept of Creating a Framework Definition to Manage the Omnimedia Stream**

To overcome this specificity of the claim, NFLE glosses over limitations as “prolix” and

assumes, without evidence, that the claim involves nothing more than converting and combining video, audio, and metadata streams. Claim 1 is directed to specific technological components (video, audio, and metadata streams; a “framework definition;” a combined “broadcast stream”) that work together in specific ways to compare and convert the video, audio, and metadata streams into a single, cohesive stream that can be transmitted to a “plurality of receivers.”

In particular, the “framework definition” is used to manage this combination of digital data into a cohesive form and enable it to be read on a variety of different receivers or devices. *Bascom*, 827 F.3d 1341 at 1350–51 (“[T]he inventors recognized there could be a filter implementation *versatile enough that it could be adapted to many different users’ preferences* while also installed remotely in a single location.”). NFLE assiduously avoids any discussion of the “framework definition” in its argument despite the fact that it is a claim limitation because that limitation helps prove this patent “focus[es] on a specific means or method that improves the relevant technology.” *McRO*, 837 F.3d at 1314.

In addition, the inclusion of a menu describing the content is not conventional nor is the use of the menu to determine which streams may be used. Williams Decl., ¶ 39. The claimed “framework definition” and “framework controller” allow these packaged streams to be transmitted to a variety of different devices. *Id.* at ¶ 38. The definition can be applied to each unique stream in a consistent format, so that the omnimedia stream can be transmitted and interpreted by the framework controller no matter what the various subpart types or formats are. ’888 patent, 6:45-8:18 (discussing the framework definition and providing a source code example); Fig. 2, 8:20-9:67 (describing the framework controller and the conversion processes).

NFLE also complains that the claims do not say “how” this is done. Yet, the specification provides a source code example of the framework definition as well as a table of

the definition components. '888 patent, 6:45-8:18. NFLE also argues that “claim 1 does not require a new source or type of information, or a new technique for organizing, combining, or transmitting media from [*sic*] multiple sources.” Motion, at 29.¹⁰ On the contrary, the claim does all of these things. The patent is directed to an entirely new type of digital television data that combines multiple streams of different information cohesively. It is directed to a new technique that requires extensive and complex computer programming for organizing and transmitting that data using a framework definition and controller to provide for seamless transport.

NFLE has failed to meet its burden to show patent ineligibility.

G. The '736 Patent Claims Patent-Eligible Subject Matter.

1. The Technological Improvement Claimed by the '736 Patent Is Directed to Establishing a Communications Link with a Viewer Based on a Signal in the Television Broadcast Stream

The '736 patent is directed to an automated invention that allows a user to retrieve information from an online source that is included with their program without necessarily leaving their program, and establishing a separate link with that online source. Almeroth Decl., ¶ 54. The invention works by automatically detecting and decoding an information link in the stream and then automatically establishing a direct digital communication link between the user and the online information provider. '736 patent, Abstract; Almeroth Decl., ¶¶ 55, 56.

This invention dates to the early days of digital and interactive television, being filed in 1996, but claiming priority to September, 1995 and references services such as Prodigy, America Online, and CompuServe that seem arcane now. Almeroth Decl., ¶ 50. At the time, however, this was cutting edge technology that was offering a wholly new model for viewing and

¹⁰ NFLE appears to misunderstand the claim in its description. The invention is important because it could transport the new broadcast stream *to* (as opposed to “from”) a plurality of different sources.

processing data. *Id.* at ¶ 51. There were very few with Internet access and broadcast television was very different than what we now experience. *Id.* at ¶¶ 50, 51. The central problem at issue was how to allow someone other than the “broadcast or cable television operator” to disseminate information, which had not been done before. *Id.*; ’736 patent, 1:23-26 (“In such systems, the selection of information services has been entirely within the control of the broadcast or cable television operator.”). The invention, therefore, is directed at establishing an independent connection between the user and an online information provider, based on a link that is included with a broadcast or television signal. “No system yet exists which provides automated and direct user access to online information providers through an address embedded in a video or audio program signal.” *Id.* at 1:29-33. The patent discusses at length the prior art and its inability to provide information in such a manner. *Id.* at 2:23-57.

It offers a unique, innovative solution that is a technological improvement to these systems: “By contrast, the present invention facilitates direct automated user access to an unlimited number of online information providers through provider addresses which are embedded in the electronic signal which carries an video or audio program.” *Id.* at 2:63-67; Almeroth Decl., ¶¶ 55, 56.

2. **The ’736 Patent Improved Interactive Television by Facilitating Communication with Information Providers**

The idea of establishing a connection with another party based on information in a television signal is a modern concept even in 2017. In the mid-to-late-1990s, however, it was revolutionary. Almeroth Decl., ¶¶ 49-51. The invention here is “not merely [] the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet,” but instead is “rooted in computer technology in order to overcome a problem specifically arising in the realm” of interactive television networks. *See DDR Holdings,*

773 F.3d at 1257.

The invention here is strikingly similar to the invention found patent-eligible in *DDR Holdings*. There, a user could access a third-party's information on a website without leaving the website itself. *Id.* Here, a viewer can establish direct contact with an information provider based on the signal in the broadcast stream. NFLE makes the same analogies that were unpersuasive in *DDR Holdings*. NFLE compares the invention to a television commercial that offers a phone number. In *DDR Holdings*, the defendant compared the invention to a store-within-a-store, an advertisement at a physical location. But just as the invention in *DDR Holdings* had no equivalent in the brick and mortar context, here there is no equivalent in the analog television space. First, merely broadcasting a telephone number does not automatically deliver information. Almeroth Decl., ¶ 57. A user cannot instantaneously receive a catalog or updated pricing information. *Id.* Second, the commercial is still ultimately under the control of the broadcast or the cable television operator. *Id.* The patent makes this point explicitly.

At the same time, some television and radio broadcasters have begun announcing an Internet address for viewer inquiries during the course of program transmission. Access to this Internet address requires the user to utilize his or her computer. No system yet exists which provides automated and direct user access to online information providers through an address embedded in a video or audio program signal

'736 patent, 1:25-33. Thus, the patented invention is distinguished, based on the face of the intrinsic evidence, from NFLE's inapposite analogy.

NFLE's librarian analogy fails for the same reason all of NFLE's other analogies fail—it does not capture the actual invention. The invention is about a video program that contains information and if the user so chooses, an independent communication is facilitated based on the information in that program. Almeroth Decl., ¶ 58. A librarian is obviously not a video program. *Id.* And telling the student to go find the resource somewhere else completely misses

the point of this invention, which is to make that connection instantaneously for the student. *Id.* Indeed, *DDR Holdings* found that the defendant could not prevail because there was no accounting for the instantaneous nature of the invention in its discussion of the long-standing concept.

While that concept may have been well-known by the relevant timeframe, *that practice did not have to account for the ephemeral nature of an Internet “location” or the near-instantaneous transport between these locations made possible by standard Internet communication protocols*, which introduces a problem that does not arise in the “brick and mortar” context.

DDR Holdings, 773 F.3d at 1258 (emphasis added). Here, there is also no possibility that the student will be “suddenly and completely” transported to the resource, especially if it is a third-party resource like the type of information that is discussed in the ’736 patent. *See id.*

The factual evidence confirms that the ’736 patent is directed to an improvement to technology, which is necessarily rooted in interactive television and computer network technology and overcomes a problem specifically arising in the realm of computer networks, namely how to establish a direct link between a user and another party based on the video program stream. Almeroth Decl., ¶¶ 54, 55.

3. The ’736 Patent Provides an Inventive Concept

NFLE barely makes an argument that the ’736 patent does not have an inventive concept. If the patent is only directed to “linking to information,” then clearly the patent provides something more to this abstract concept. A television signal operating in its normal, expected manner does not transmit a signal that can be used to create a separate transmission between an information provider and the user. Almerorth Decl., ¶ 60. But here, the claimed invention generates a communication means and directs the viewer to be able to access additional information from another party so that the user has direct access. Taken together as an ordered combination, these claims recite an invention that is “not merely the routine or conventional use”

of a television signal, but transforms it into a true interactive experience. *See DDR Holdings*, at 773 F.3d at 1258-59; Almeroth Decl., ¶ 60.

NFLE argues that the “link” claimed in the ’736 patent is just a conventional Internet link. First, there was no such thing as a conventional hyperlink in the mid-1990s such that it could be considered a long-standing, fundamental, or routine concept. Almeroth Decl., ¶ 61. Second, the link was not conventional because it was not found on a webpage. It was included with a video program stream. *Id.* This was and is an unconventional use of video programming and unconventional placement for a hyperlink. *Id.* In any event, NFLE focuses too much on the “Internet” to prove abstractness. It is not the “use of the Internet” that makes the claim inventive. It is providing a new way to automatically and directly interact with third parties while watching television based on the video program stream but independent of broadcast and cable news operators’ control. This is not “a situation where general-purpose computer components are added post-hoc to a fundamental economic practice or mathematical equation.” *Enfish*, 822 F.3d at 1339.

Like all the inventions at issue, the invention of the ’736 patent does not simply use a computer to automate what was done previously, but rather does something new and expands the functionality of television program signals.

NFLE has failed to meet its burden to show patent ineligibility.

III. CONCLUSION

For the reasons above, OpenTV respectfully requests that the Court deny NFLE’s Rule 12(b)(3) motion to dismiss for improper venue and Rule 12(b)(6) motion to dismiss for failure to state a claim.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have consented to electronic service are being served with a copy of this document via electronic mail on April 11, 2017.

/s/ Elizabeth Day

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